

REMARKS

The Office Action dated 4/23/03 has been fully considered by the Applicant. Claims 1, 8-10 are currently amended; claims 2 and 3 have been previously amended; old claims 5-11 have been renumbered as claims 4-10; claims 11-15 have been added. Enclosed is a check for \$420 to cover the cost of additional independent claims.

Enclosed are copies of the drawings as were submitted during the prosecution of the corresponding PCT application showing Figures 1-4 as "Prior Art" and with legible references numbers and lines. It is believed that these drawings satisfy the Examiner's objections.

Claims 1-10 have been rejected under 35 USC 102(b) as being anticipated by FR 1,582,851. Reconsideration of the rejection is requested.

Claim 1 has been amended to include two new features to clarify the function of the pilot valve of the present invention. Firstly, the outlet of the control chamber (51) is connectable so that the water pressure can be substantially equal to an outlet pressure of a pressure reducing valve being controlled. Basis in the specification for this can be found in Fig. 5. Secondly, Claim 1 now includes the feature that the control pressure is different from the outlet pressure of the pressure reducing valve being controlled. Basis in the specification for this is implicit at page 7, lines 5 to 12 given that the fluid providing the control pressure may not be the same fluid as that which is being controlled. In such a case, clearly the control pressure may well be other than the outlet pressure of the valve being controlled.

The valve arrangement of FR1582851 contains a throttle arrangement 21 (Figs. 2 and 5). This functions to compensate for variation in outlet pressure due to changes in the pressure by applying a throttled version of the output pressure to the space between diaphragm 16 and 17.

The arrangement of FR1582851 is such that the apparatus cannot satisfy at least the two features introduced into Claim 1 in the present amendment. In particular, the outlet 6 is not connectable so that the water pressure of the outlet is substantially equal to the outlet pressure of the pressure reducing valve being controlled. Furthermore, there is no disclosure of a control pressure that is different from the outlet pressure of the pressure reducing valve being controlled.

The claims have been amended to more clearly indicate the features and we believe that with this amendment and the supporting arguments the invention should be allowed to proceed to grant.

New Claim 11 is effectively independent Claim 1 with the additional feature of a control chamber diaphragm partly bounding the control chamber, which control chamber diaphragm isolates the biasing means from the control chamber. Basis in the specification for this can be found at page 7, lines 22 to 26 and page 9, lines 20 to 21.

New Claim 11 contains a further important feature not present in FR1582851, that is, the feature of the biasing means being isolated from a control chamber by the control chamber diaphragm. In FR1582851 the spring 2 is separated from the control chamber by additional chambers 13 and 14. Thus, the control chamber diaphragm does not perform the function of isolating the biasing means from the control chamber.

Furthermore, there is no disclosure in FR1582851 of a combination of a pilot valve and a pressure reducing valve for a water supply system, as defined in new claims 12 to 15.

The apparatus of FR1582851 is designed to control gas flow. In particular, it is designed to balance the output pressure of a regulator by compensating for variations in input pressure. This document does not contemplate or even suggest a pilot valve for use with a pressure reducing valve of a water supply system. Indeed, the presence of the throttling valve 21 (Figs. 2 and 5) make this

regulator quite inappropriate for such a use. The skilled person would have to modify the apparatus of Fig. 2 by removing the entire throttle arrangement in order to arrive at a regulator that might be of some use according to the present invention. Given that the throttling arrangement lies at the heart of the invention of FR1582851, it would not be obvious for the skilled worker to make such wholesale changes. Furthermore, there is no teaching or incentive in any of the cited prior art documents or common general knowledge that would lead the skilled worker to make such changes.

New claim 11 has the feature that the biasing means is isolated from the control chamber by the control chamber diaphragm. In contrast, FR1582851 separates the biasing means from the control chamber with two distinct chambers 13 and 14 and three diaphragms 15, 16 and 17 (Fig. 2). Given that one of the drawbacks addressed by the present invention is to simplify the apparatus by, for example, removing the need for seals between neighbouring chambers (see page 5, lines 1 to 12) the skilled worker would immediately reject the apparatus of FR1582851 since it requires additional complexity in order to fill its function.

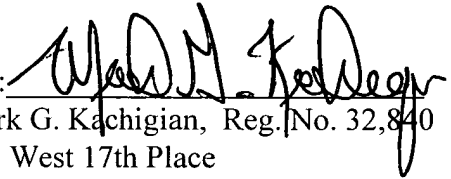
To conclude, the apparatus of FR1582851 cannot perform the required functions of the pilot valve of the present invention as defined in Claim 1 and the very substantial structural changes that would have to be made in order to get it to perform the desired function would not be obvious to the skilled person.

It is believed that the application is now in condition for allowance and such action is earnestly solicited. If any further issues remain, a telephone conference with the Examiner is requested.

Respectfully Submitted

HEAD, JOHNSON & KACHIGIAN

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BY: 
Mark G. Kachigian, Reg. No. 32,840
228 West 17th Place
Tulsa, Oklahoma 74119
(918) 584-4187
Attorneys for Applicant